Solar Decathlon

At UC Berkeley

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Welcome to Our Team

RISE

UC BERKELEY

The Solar Decathlon is a two-year Department of Energy Competition to design, build, fund, and transport a zero-net energy home.

In October of 2017, houses from 14 collegiate teams will compete in 10 different categories.

Decathlon: 10 Contests

Juried Contests (6)

Architecture

Based on the Architectural Concept & Design Approach, Implementation & Innovation, and Documentation and Presentation

Market Potential

Criteria include Livability, Marketability, Cost Effectiveness, and Buildability.

Engineering

Approach, Design, Efficiency, Performance and Documentation

Communications

Judges evaluate the strategy, implementation, and On-Site Communications.

Innovation

Research, Sustainability and Innovation, Durability and SAFETY

Water

Conservation, Reclamation & Reuse,and Landscaping

Measured Contests (4)

Health and Comfort

Temperature, Humidity, Indoor Air Quality, Air Tightness

Appliances

Refrigerator, Freezer, Clothes Washer and Dryer, Cooking, Hot Water

Home Life

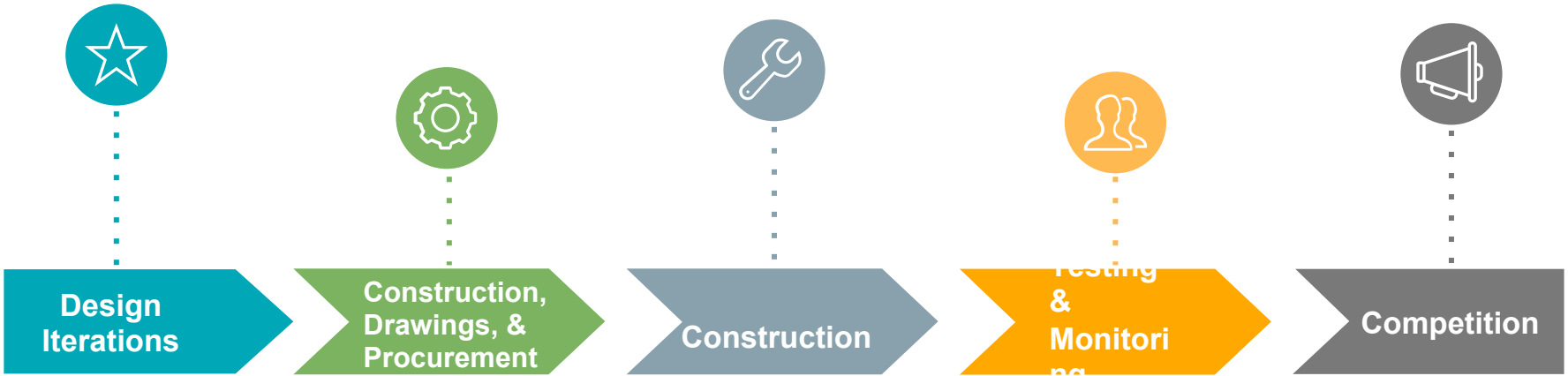
Lighting, Home Electronics, Dinner Party, Game Night, COmmuting

Energy

Energy Production, Energy Value

Timeline

Our team is currently in the final stages of the Construction, Drawings, and Procurement Process. After months of extensive research, comprehensive collaboration, and professional review, we are confident and excited to move into our next phase of development: construction. In addition, our External Affairs Team has been actively seeking funding to ensure that our project comes to fruition.



OUR TEAM

Team Structure

Creating sub-teams within the larger team allows students to hone in on particular skill sets while still being a part of a larger, collaborative group process.

External Affairs
Fundraising
Social Media
Education
Sponsorship
Outreach

PM/Construction
Health and Safety
Scheduling
Budgeting
Procurement
Quality Assurance

Design
Architecture
Sustainability
Water
Mechanical Systems
Electrical

Design Mission

“To create a sustainable Zero-Net Energy living space for transitioning Bay Area suburbs that helps to alleviate increases in cost of living by maximizing energy, space, and water efficiency.”

R

RESIDENTIAL

Housing has developed over the past century with growing populations and limited space.

I

INVITING

Our units encourage a sense of community through multi-family collaborative spaces.

S

STACKABLE

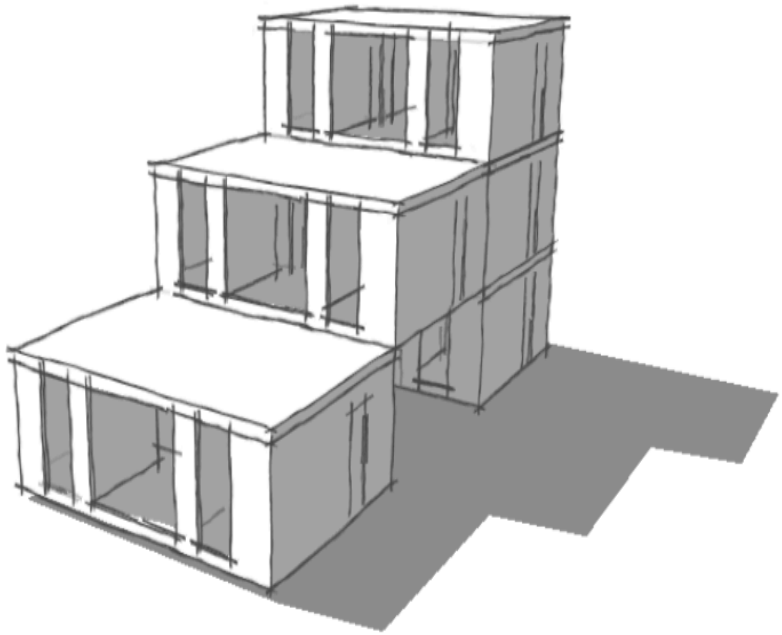
Vertical and horizontal stackability allows communities to adapt to the transitioning Bay Area.

E

ELEGANT

Simplicity and user experience are at the forefront of our design.

RISE Homes

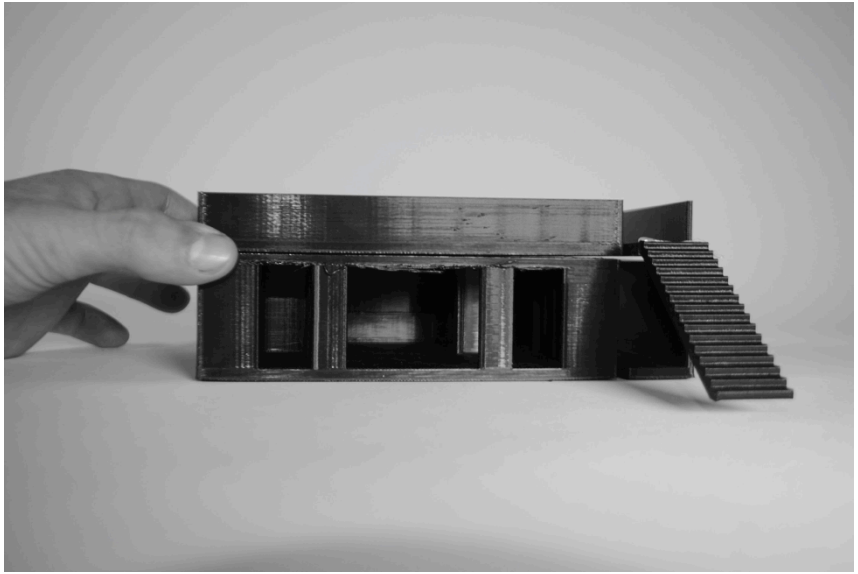


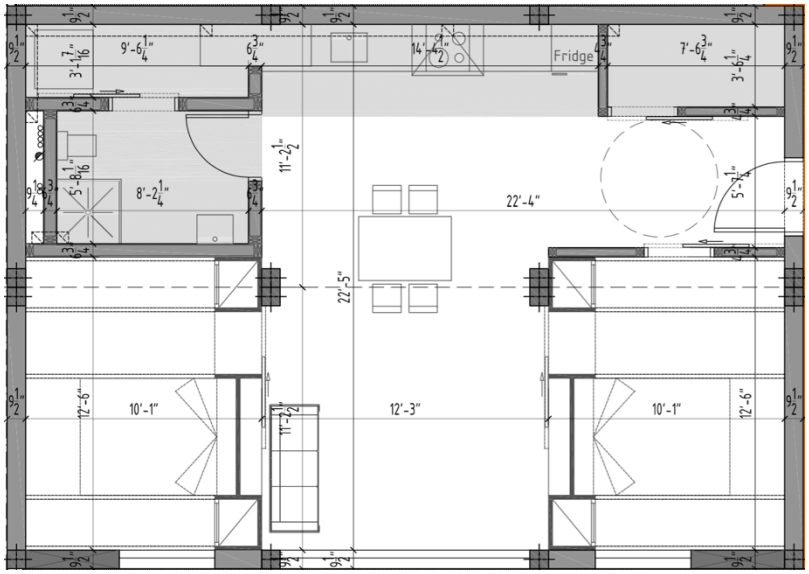
5 - Unit Building

In order to accomplish our Design Mission, we created a five-unit building comprised of stackable homes. These homes are optimized to stack easily and efficiently.

We are specifically designing for Richmond, California because it is currently transitioning to adapt to the rapidly expanding housing market of the Bay Area. The homes fit easily within an infill lot, which are abundant in Richmond.

RISE House





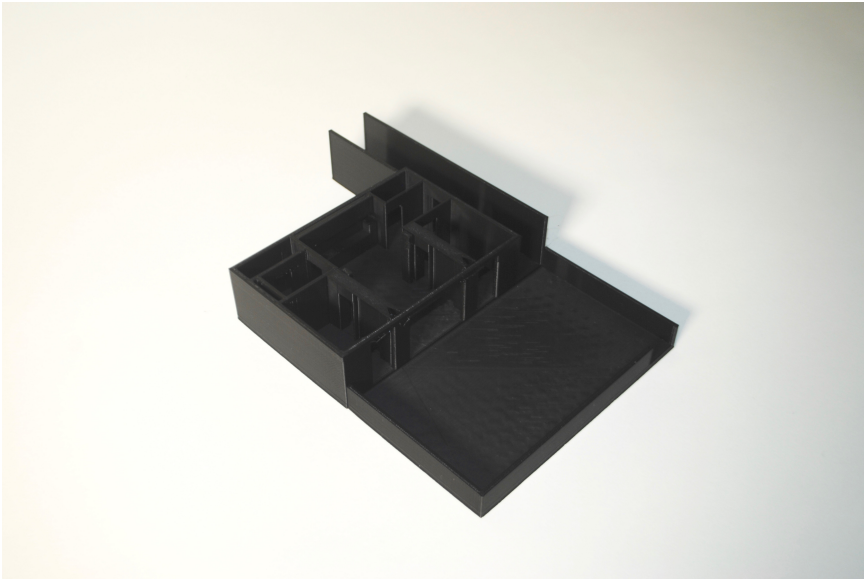
3D Competition Model

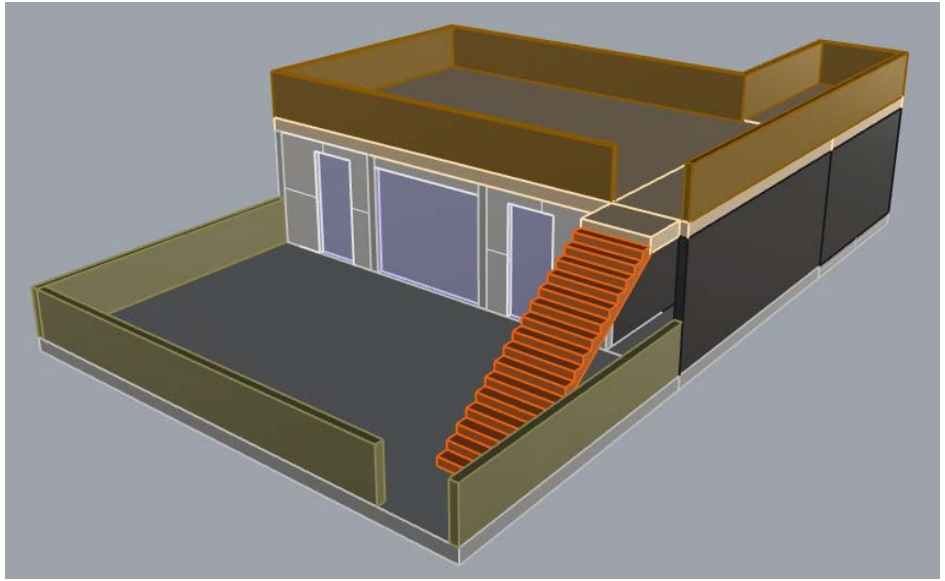
For the competition, we will only be building and transporting the penthouse of our multi-family unit, per the competition rules.

Adaptability

The open floorplan and movable wall system allows for a uniquely versatile space that can change with its residents.

RISE House





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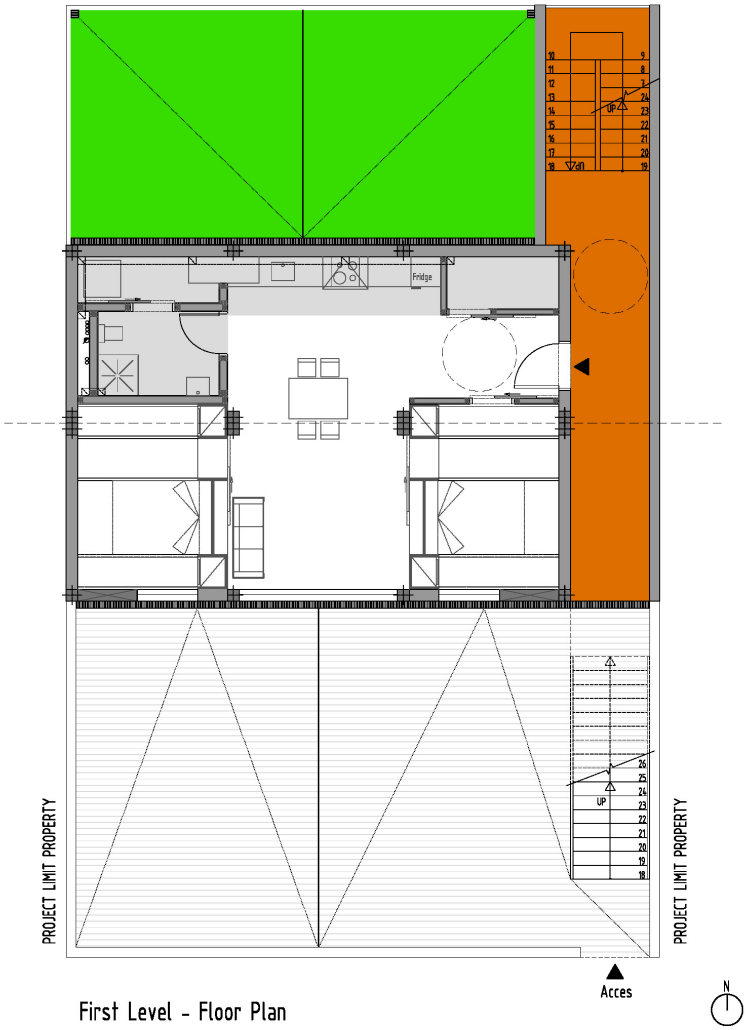
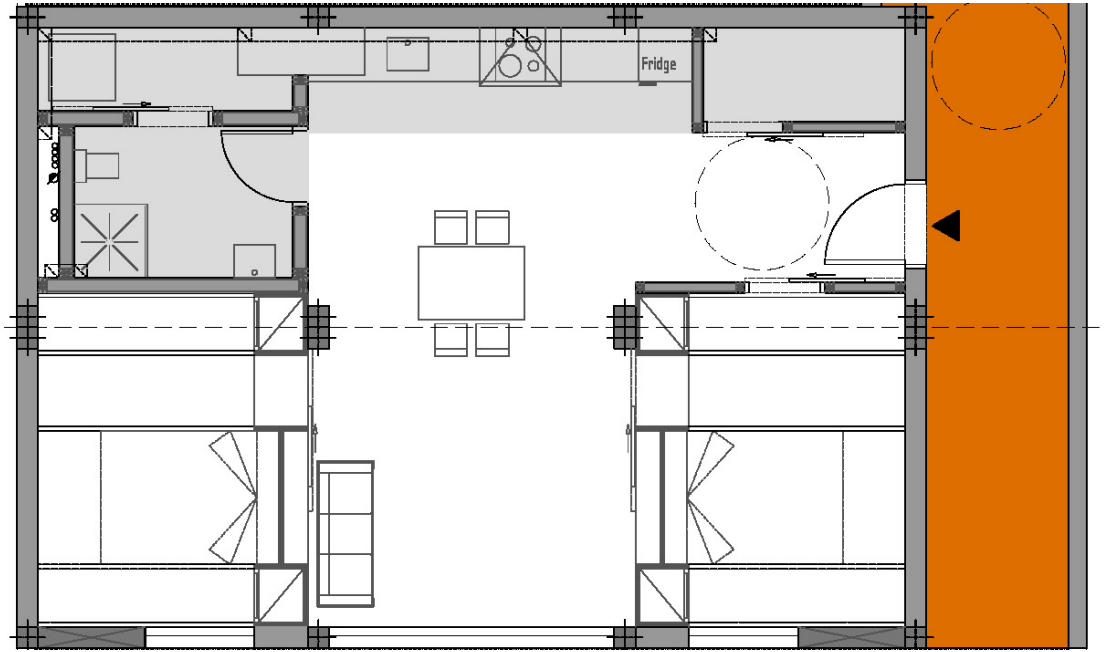
Floor Plan



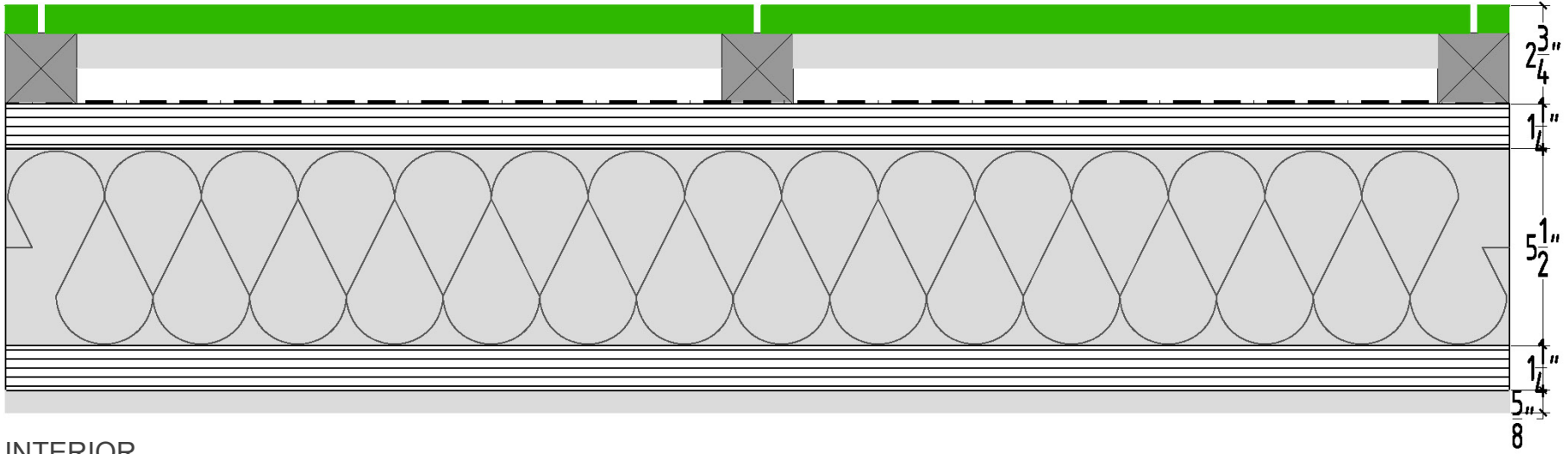
First Level - Floor Plan



Daylighting
Natural Ventilation
Mouvable walls
Building orientation

North Façade

EXTERIOR Facing North



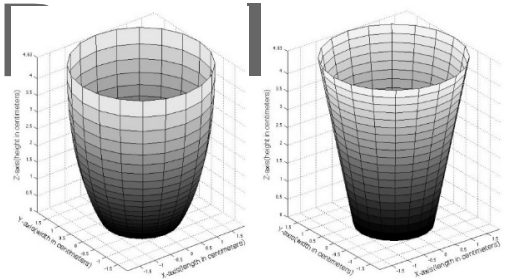
INTERIOR

BamCore
Build Stronger • Faster • Greener

Havelock Wool

UPC UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

Translucent Concrete

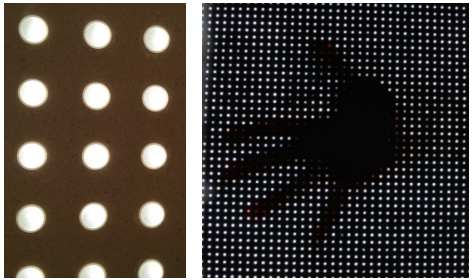


TEST Layer A

- Sunlight Concentrators

(CPC vs. Straight Cone)

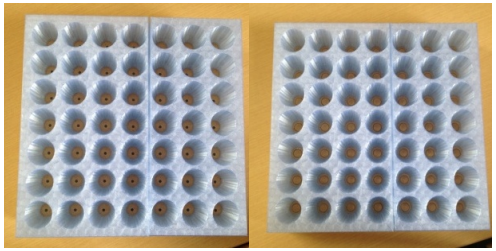
- Provide large surface area for sunlight capture.



TESTS Layer B

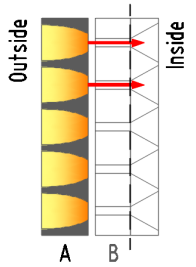
- Light Conduit Layer
(Translucent Concrete Panel – TCP)

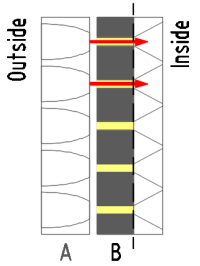
- Transmit concentrated light using optical media

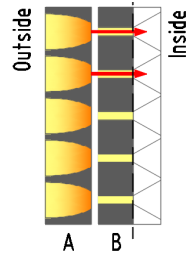


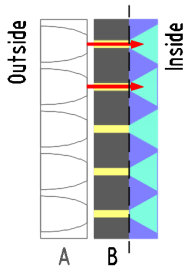
TESTS Layer A+B

- Light Concentrators + TCP



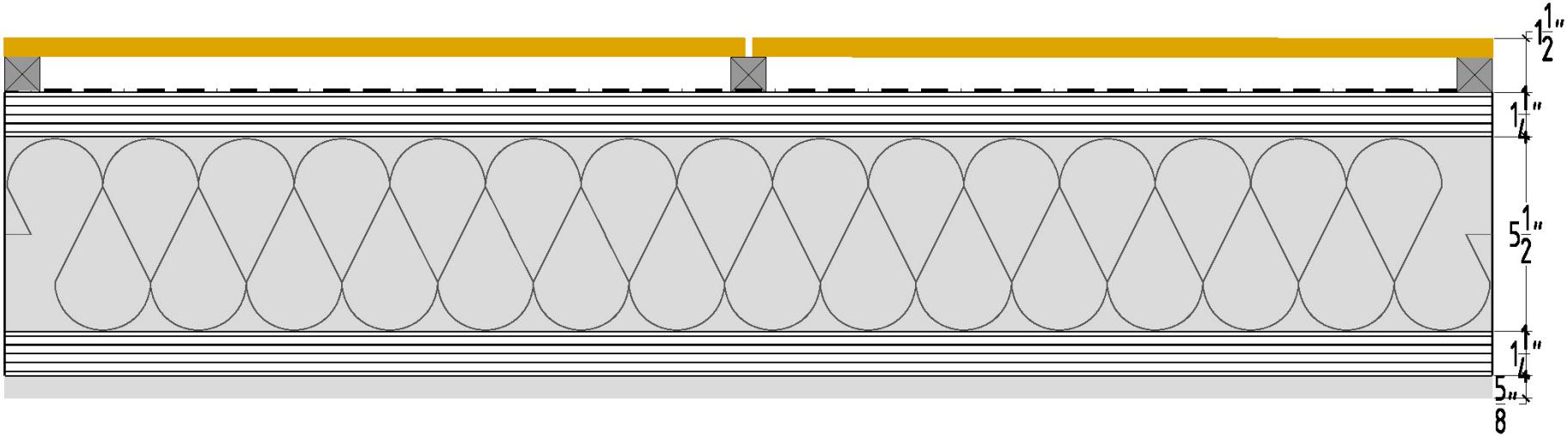






South Façade

EXTERIOR Facing South



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Thank You!

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